

Appl. No. 09/850,123
Amdt. Dated October 20, 2004
Reply to Office Action of April 21, 2004

Claims

Please cancel claims 1, 7, 8-16, 21-25, 27, and 28, without prejudice, in order to place the remaining claims in condition for allowance.

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1. (Cancelled)

Claim 2. (Currently amended) A method according to claim 1, for loading a plurality of disparate sample containers, the sample containers comprising an integral structure, such that the concentration of a specified substance in each container is characterized by a gradient with respect to position of the container within the structure, the method comprising:

- a. introducing a first liquid into the disparate containers; and
- b. contacting the containers with a second liquid, the second liquid containing the specified substance, in such a manner that the degree of diffusion of the specified substance into the disparate containers differs in a controlled manner among the containers,

wherein contacting the containers with the second liquid includes differing a duration of contact with the second liquid as among the disparate containers.

Claim 3. (Currently amended) A method according to claim 1, for loading a plurality of disparate sample containers, the sample containers comprising an integral structure, such that the concentration of a specified substance in each container is characterized by a gradient with respect to position of the container within the structure, the method comprising:

- a. introducing a first liquid into the disparate containers; and
- b. contacting the containers with a second liquid, the second liquid containing the specified substance, in such a manner that the degree of diffusion of the

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specified substance into the disparate containers differs in a controlled manner among the containers.

wherein contacting the containers with the second liquid includes modulating the diffusion rate of the specified substance into the containers.

Claim 4. (Original) A method according to claim 3, further comprising the step of creating a gradient of the specified substance in the second liquid prior to contacting the containers with the second liquid.

Claim 5. (Original) A method according to claim 4, wherein the step of creating a gradient of the specified substance includes applying electrophoresis.

Claim 6. (Original) A method according to claim 3, wherein the step of modulating the diffusion rate includes contacting the containers with the second liquid through a membrane having a permeability variable with respect to position.

Claims 7-16. (Cancelled)

Claim 17. (Currently amended) A method for loading a liquid into a plurality of through-hole platens, each platen having a plurality of through-holes, the method comprising:

- a. stacking at least two substantially empty platens together in such an adjacent manner that at least one of the plurality of through-holes from each platen is registered with a through-hole of each other adjacent platen so as to form at least one a registration set of through-holes unimpeded by any solid structure continuous column; and
- b. transferring the liquid into each to form a continuous column of liquid in each registration set.

Claim 18. (Original) A method according to claim 17, wherein each platen is separated from each adjacent platen by an air gap.

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Claim 19. (Original) A method according to claim 17, wherein the step of transferring liquid includes transporting the liquid through capillary tubes.

Claim 20. (Original) A method according to claim 17, wherein the step of transferring liquid includes transporting the liquid through at least one cannula.

Claims 21-25. (Cancelled)

Claim 26. (Currently amended) A perforated platen having substantially parallel planar surfaces for manipulating distinct liquid samples, each sample having a volume less than 1 microliter, the platen comprising:

- a. an inner layer of hydrophilic material;
- b. two outer layers of hydrophobic material coupled to opposite sides of the inner layer;
- c. a two-dimensional array of through-holes including, at least a first hole having a first liquid, and
- d. at least one hole, adjacent to the first hole, containing a second liquid distinct from the first liquid, the through-holes each having a diameter less than 400 micrometers and a density of at least 1.6 through-holes per square millimeter, wherein the two outer layers of hydrophobic material prevent outmigration of the first and second liquids.

Claims 27-28. (Cancelled)